Children Can't Fly: A Program to Prevent Childhood Morbidity and Mortality from Window Falls

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Abstract: "Children Can't Fly" is a health education program developed by the New York City Department of Health to combat the high incidence of child mortality and morbidity due to falls from windows. The success of the program, begun in 1972, in drastically reducing death and injury persuaded the New York City Board of Health to amend the Health Code in 1976 to require that landlords provide window guards in apartments where children ten years old and younger reside. The law is the first and only one of its kind in the nation.

The program has four major components: 1) reporting of falls by hospital emergency rooms and police precincts, followed up by counseling, referral, and data collecting by public health nurses; 2) a media campaign to inform the public and elevate their awareness of the hazards; 3) community education for prevention through door-to-door hazard identification, counseling by outreach workers, community organization efforts with schools, tenant groups, clinics, churches, health care providers, etc.; 4) provision of free, easily installed window guards to families with young children living in high-risk areas.

Significant reduction in falls resulted, particularly in the Bronx, where reported falls declined 50 percent from 1973 to 1975. The program is one solution to an urgent urban problem which other cities might consider to avert the loss of life and limb, and the corollary financial burden for hospitalization, rehabilitation, and maintenance of the injured and permanently disabled. (Am. J. Public Health, 67:1143–1147, 1977)

In a unanimous landmark decision, the New York City Board of Health on April 12, 1976, passed the first child accident prevention law of its kind in the nation. The law, an Amendment to the New York City Health Code, requires owners of multiple dwellings to provide window guards in apartments where children 10 years old and younger reside.

Enactment of the legislation ran afoul of bureaucratic and property owner resistance even though the need for this preventive legislation was documented and the deterrent prescribed. One property owner brought a proceeding in the New York State Supreme Court attacking the constitutionality of the mandate and charging *inter alia* that the Board's action shifts obligation for the care and protection of children from parents and places it on the real estate industry. However, the new regulation was upheld by the New York Supreme Court in a decision rendered by Justice Margaret J. Mangan on October 20, 1976. The court found that the Board of Health was acting within its jurisdiction granted by the New York City Charter to regulate all matters affecting health and preservation of life in New York City. The court presumed the regulation constitutional and found the action of the Board of Health "not arbitrary, capricious or unreasonable."

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The genesis of this law may be traced back to a 1969 study of child mortality due to falls from heights undertaken by the New York City Department of Health for the period January 1965–September 1969. The study found that falls from heights represented 12 per cent of all accidental deaths among children under 15 years of age, with window falls responsible for 123 deaths.[1] It was recognized that mortality was only a partial perception of the problem.

Noting that 23 fall-related fatalities occurred in the South Bronx during 1971 among children 15 years or younger, the New York City Health Department initiated an education and prevention program called "Children Can't Fly" in the Tremont Health District of the Bronx. Staff at Jacobi Hospital which served this district had recalled dozens of window falls during the previous summer, and a precinct patrolman stated that he had himself picked up nine dead children. He estimated that there were over a dozen infant deaths resulting from falls in his precinct alone every summer. Recidivism—multiple window falls in the same household—was also observed.

In the late Spring of 1972 a two-year pilot program was developed combining service with research. A voluntary reporting system was initiated, and the problem of window falls was attacked through educational modalities, outreach services and the provision of free window guards.

The Pilot Program

The "Children Can't Fly" Program consisted of the following components:

Data Gathering

• *A Voluntary Reporting System:* Reporting of window falls of children under age 15 by police precincts and hospital emergency rooms on postal card forms supplied by the program.

• *Follow-up:* Home visits made to victim's household by public health nurses.

Education

• *One-to-One:* Outreach workers going door-to-door identifying the hazards, counseling parents on prevention, providing applications for free window guards where indicated.

• *Community Education:* Involvement of public and private agencies and community-based groups in the dissemination of prevention literature and instruction.

• *Media Campaign:* Awareness elevation and prevention education thru radio, TV, public service spot announcements, news stories, editorials, special news coverage, etc.

Prevention Service

• Distribution of easy-to-install free window guards to families with pre-school age children, living in tenements in high-risk areas.

This approach appeared to be effective; a downward trend in reported falls was observed by the second summer. Reported deaths from other areas indicated that the summertime epidemic of children dropping from unguarded windows continued to be one of the city's most serious accident hazards.

Expansion Program

In 1974 and 1975, the program was expanded to include all five boroughs. The voluntary reporting system involved contacting 63 hospital emergency rooms and 73 police precincts, and periodically monitoring them on a year-round basis. It was found that if a precinct or hospital emergency room failed to report falls it usually meant that falls had not occurred within that catchment area. Personnel turnover, failure to transmit procedures from one staff person to another, and/or individual disinterest undoubtedly accounted for occasional lapses in reporting. It was useful to have both sources involved in the reporting system. Table 1 displays the growth of the program.

Public Health Nursing Services

The follow-up home visits made to the households of window fall victims by public health nurses were enlarged to provide supportive counseling and referral services to the victim and family. When more than this initial visit seemed indicated by conditions in the home, repeated home visits were made and appointments for clinic visits and referrals to social service agencies were arranged.

A concomitant feature of the home visit was the compilation of a report providing a family profile and demographic and sociological information. Detection and identification of other potentially dangerous environmental hazards (lead, exposed wiring, etc.) and supervisory or physical hazards (hyperactivity, mental or physical retardation, parental inability to cope) and corrective counseling were bi-products of the home visit. Counseling was done on accident prevention; the family was registered for window guards, and alerted to possible latent symptoms related to the accident and to the importance of clinical follow-up.

Education

The media campaign was targeted toward elevating the awareness of the public in general, and of parents in particular, to the hazard of open unguarded windows and to recommending measures for prevention of accidents. By utilizing public service time slots, special news programming, children's TV programs such as Romper Room, and capitalizing on every opportunity to issue press releases and news stories to the Spanish and English media, various agency house organs, and community papers, efforts were made to sustain the issue and the problem in the forefront of the public consciousness. Media coverage supplied the "alerting function" and presented, wherever possible, a viable solution.

Outreach workers, going door-to-door counseled on prevention; counseling was also provided in child health stations and pediatric treatment clinics. Special student trainee programs in hospital clinic waiting rooms provided another form of educational outreach.

TABLE 1—Number and Per Cent of Hospital Emergency Rooms and Police Precincts Participating and Reporting in Window Fall Reporting System, New York City 1973-1975

	Hospitals			Precincts		
	Number Participating	Reporting Falls†		Number Participating	Reporting Falls†	
		No.	%		No.	%
1973	25	20	80	**73	15	20
*1974	45	24	53	**73	22	30
1975	**63	38	60	**73	26	36

† In children 15 years of age or younger
* Year-round reporting initiated
** Maximum number of hospitals with emergency room facilities

Workshops were conducted with parents in Headstart programs and PTA groups; street programs and demonstrations were used to bring the message to a broad spectrum of the target population. There was widespread distribution of bi-lingual posters and multi-lingual flyers (English, Spanish, Chinese and Haitian) through a network of health centers, hospitals, pediatric clinics, police precincts, community councils, child health stations, family health care centers, day care centers, head start programs, community school boards, PTAs, child welfare agencies, offices of neighborhood services, community corporations, supermarket chains, church pastors, and a long list of community based organizations, including block associations, tenant groups, offices of community services, housing rehabilitation groups, etc.

Window Guard Distribution

More than 16,000 free window guards were provided to approximately 4,200 families each year with particular emphasis on the high-risk areas as determined by the incidence of reported falls of the previous year, and modified by a weekly reassessment based on the most current evidence of falls in health district areas. The window guards were purchased by the New York City Health Department in open competitive bid, generally for less than $3 per guard. Environmental health personnel provided manpower for the installation of approximately 25 per cent of the available guards and the remainder were distributed for self-installation. Surveys of self-installed guards were made by outreach staff to determine if guards were properly installed in appropriate windows. *There were no falls reported from windows where guards had been installed.*

Program Results

The Bronx, formerly the area of highest risk, and the borough in which the "Children Can't Fly" campaign with all its components had been most intensively concentrated, has remained relatively constant in the number of reporting agencies participating since the inception of the program. In the Bronx 108 falls were reported in 1973, declined to 64 in 1974, and to 54 in 1975, a 50 per cent decline in two years. During the critical summer months of June-September 1973–1975, a highly significant decline in reported falls was recorded: the percentage decline was 50 per cent in September 1975 as compared with the same months in 1973, 68 per cent in June, 72.8 per cent in July, and 81.5 per cent in August.

City-wide, in 1973, there were 192 falls reported. In 1974, the number reported was 132, a decrease of 31 per cent. In 1975, 159 falls were reported, a 20 per cent increase over 1974. However, between 1974 and 1975 the number of reporting emergency rooms increased from 24 to 38.

Given the potential for errors of omission and commission possible in a voluntary reporting system in the reporting of falls, deaths may be a better barometer. The number of deaths of children due to falls from heights in the city as determined from death certificates declined from 57 in 1973 to 45 in 1974 and to 37 in 1975, a decrease of 35 per cent since 1973. These data are displayed in Table 2.

Selected data taken from the reports of falls are tabulated in Table 3. Male victims exceed females in a 2.1 ratio; children fell from bedroom windows with greater frequency than from other rooms; and more falls occurred during the afternoon hours than at any other time of the day.

It is difficult to assign a primary cause to most accidents since many factors contribute to the occurrence. For example, a child left alone in a room may also have climbed on furniture to reach a window, and may have opened a window that had been closed. The same child may or may not have been the victim of neglect, or the parent may have assumed that the child was asleep and in no danger. Cultural or environmental factors such as the use of fire escapes as sitting or play areas play their parts, since children may climb out of windows in order to sit or play in these areas and then fall.

A majority of falls occurred in single parent households and approximately 60 per cent of the families were supported by social services in 1975 as compared with 37 per cent in 1973. This latter increase may be a reflection of the worsening economic conditions.

Since approximately 90 per cent of falls occur from tenement type buildings, which do not make up 90 per cent of the city's housing stock, an association exists between the incidence of falls and environmental factors such as aging or deteriorating housing. The hazard of falls from buildings in the same age category is not diminished where construction

TABLE 2—Window Fall Fatalities in Children 15 Years of Age and Under New York City, 1973-75

	Fatalities Reported by Police Precincts and Emergency Rooms	Fatalities Reported by Death Certificates			
		*Total	(a)	(b)	(c)
1973	32	57	19	2	36
1974	25	45	14	2	29
1975	19	37	10	1	26

*Includes all fatalities in children 15 years of age and younger from window falls as classified by Medical Examiner
(a) accidental deaths
(b) death where injury was purposely inflicted
(c) deaths where it is undetermined if injury was purposely inflicted

TABLE 3—Selected Characteristics of Victims of Window Falls Reported* February-October, 1973-1975, New York City

Characteristics	No.	%
Total Reported Falls	483	100.0
Sex		
Male	322	67.
Female	161	33.
Age		
0-2 yrs.	160	33.3
3-5 yrs.	186	38.5
6-15 yrs.	137	28.2
Ethnicity		
Black	194	40.1
Hispanic	247	51.1
Other	42	8.8
Economic Support		
Welfare	244	50.5
Parent Employed	178	36.9
Unknown	61	12.6
Month of Occurrence		
February	4	0.8
March	9	1.9
April	17	3.5
May	40	8.3
June	94	19.5
July	150	31.1
August	93	19.2
September	52	10.7
October	24	4.9
Time of Day		
Morning	93	19.2
Afternoon	219	45.4
Evening	156	32.3
Unknown	15	3.1
Location of Occurrence		
Bedroom	119	25.
Living Room	123	25.3
Kitchen	69	14.2
Other (fire escapes etc.)	77	15.6
Unknown	77	15.6
Roof	21	4.3
Circumstances Surrounding Fall		
Alone in Room	224	46.4
Horseplay	138	28.6
Faulty Screens	67	13.8
Foul Play (Suicide, Homicide, Neglect, Abuse)	25	5.2
Unknown	29	6.0

* As reported by Police Precincts and Hospital Emergency Rooms

is no higher than three stories, although fatalities are fewer. There is an association between incidence of falls and the economically disadvantaged since it is this group that resides in substandard housing under circumstances of overcrowding, family instability, tensions, and pressures.

Discussion

Medicaid payment for inpatient care in New York City is currently over $200 per diem. For the two-year period 1974–1975, the cost of inpatient treatment for victims of window falls—excluding emergency room diagnoses and treatment, after-care, rehabilitation and maintenance—was calculated at $544,904 for 170 known cases admitted to hospitals.

The 1975 list of casualities, aside from fatalities, includes cases of children who sustained brain damage, paralysis, loss of kidneys, ruptured spleens and bladders, loss of eyesight, and similar incapacitating injuries which portend extended if not permanent after-care and maintenance, the dollar cost of which has not been included or projected as a cost factor in the above estimate.

These reasons, together with the evidence provided by the voluntary program described above led to the amendment of the Health Code of the City of New York in April, 1976. This mandate will be incrementally implemented according to a three-year phase-in plan in which the high-risk areas are required to comply in the first year, the moderate risk areas in the second year, and the remainder of the city by March 31, 1979.

The office of Professional and Public Health Education of the Health Department will continue its educational efforts and inform property owners of their obligations under the Health Code regulation. It will educate the public, particularly parents, about their entitlements under the mandated timetable, and will instruct and assist tenants in notifying property owners of their family composition relative to children in the affected age category, to establish their eligibility for receiving the window guards, and to expedite compliance with the regulation.

The incidence of fatalities from window falls among children in New York City alone approximates the nationwide data for aspirin poisoning fatalities which precipitated the passage of federal accident prevention legislation. Whereas no data are currently available relevant solely to the incidence of window falls and fatalities nationally, it may be assumed that falls occur and fatalities result in large urban areas wherever there are conditions of low socioeconomic population, deteriorating housing, overcrowding, family instability, etc. Therefore, one preventive health education module and service program based on this type of campaign and the legislation that evolved therefrom might serve as a useful prototype.

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